



# SDD 14B44-a Midwest Guardrail System (MGS) Energy Absorbing Terminal

## GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
- (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
- (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
- (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.
- (F) DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

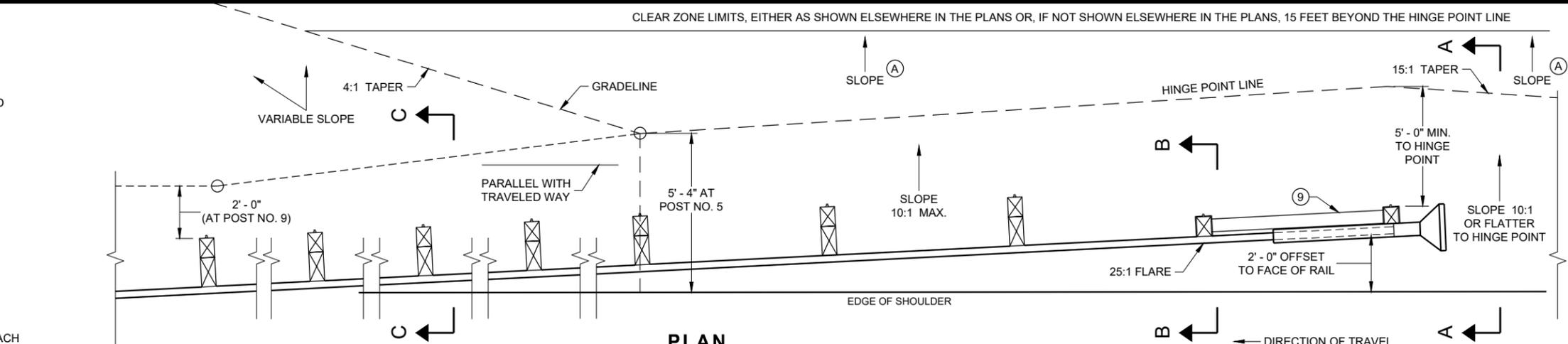
\* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

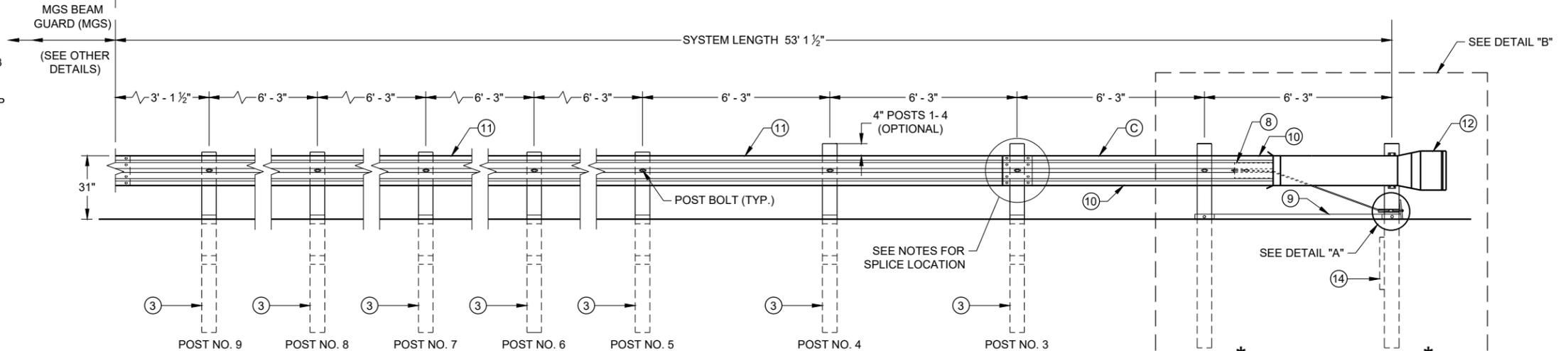
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

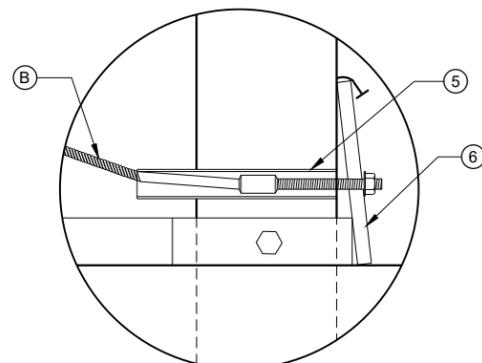
CLEAR ZONE LIMITS, EITHER AS SHOWN ELSEWHERE IN THE PLANS OR, IF NOT SHOWN ELSEWHERE IN THE PLANS, 15 FEET BEYOND THE HINGE POINT LINE



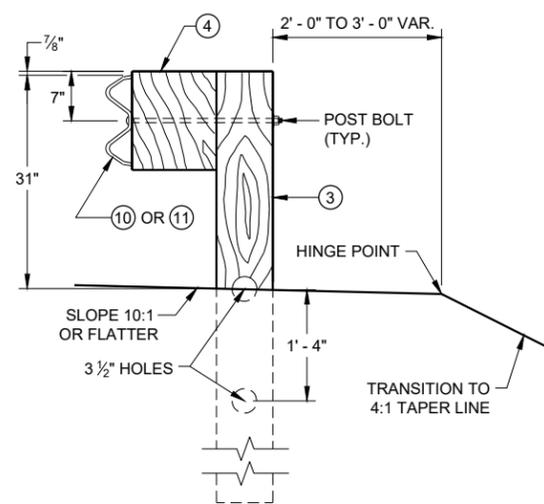
PLAN



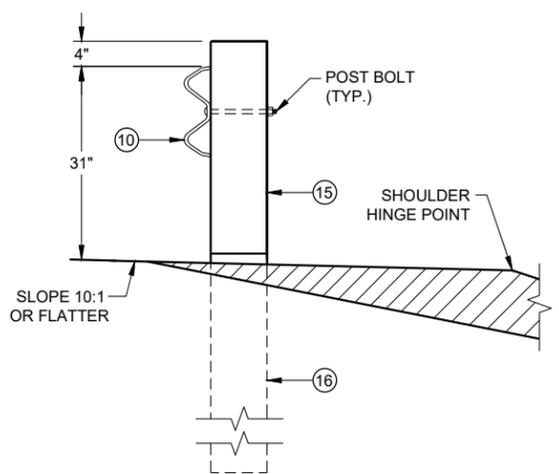
ELEVATION



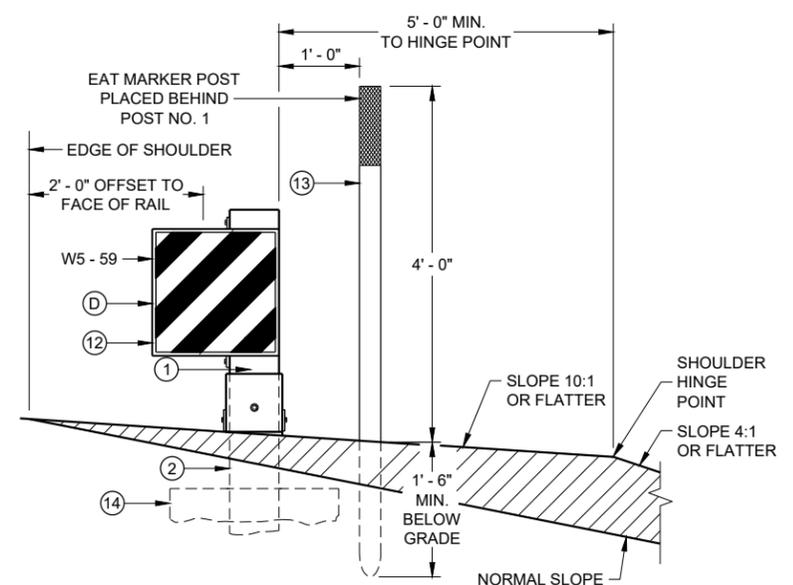
DETAIL "A"



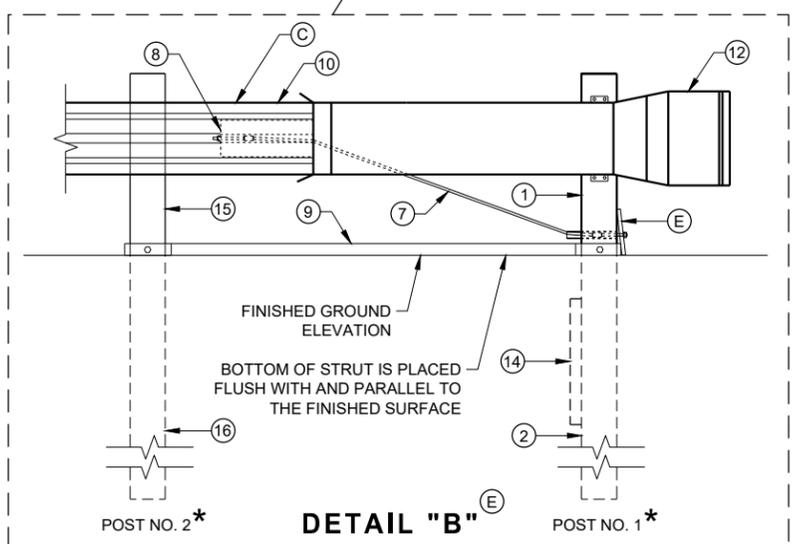
SECTION C - C  
TYPICAL AT POST NOS. 3 - 9



SECTION B - B  
TYPICAL AT POST NO. 2\*



SECTION A - A  
TYPICAL AT POST NO. 1\*



DETAIL "B"

**MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

6

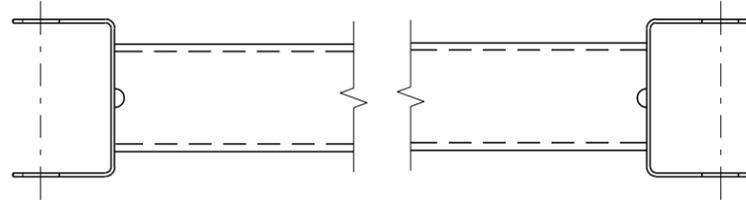
SDD 14B44 - 04a

SDD 14B44 - 04a

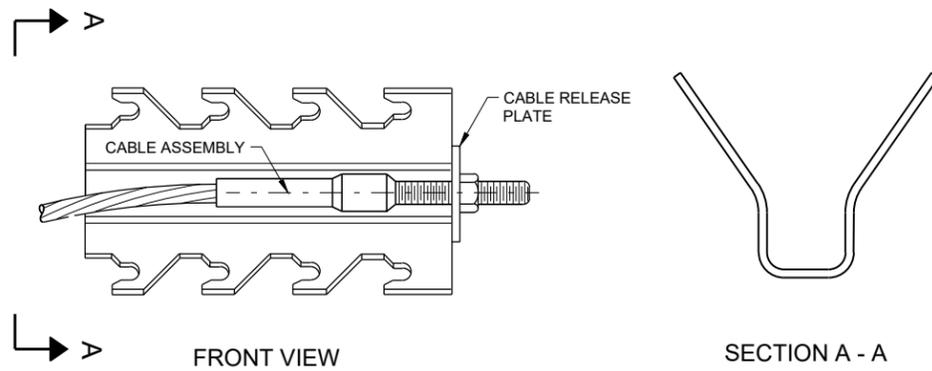


**BILL OF MATERIALS**

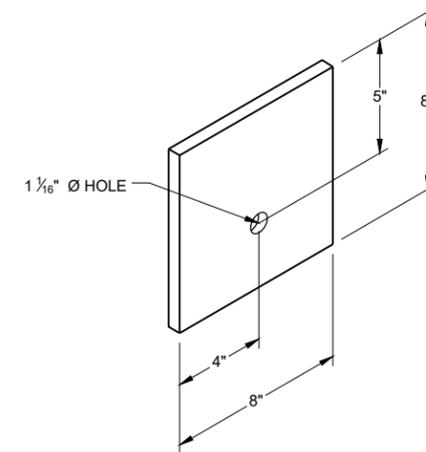
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



**GENERIC GROUND STRUT** ⑨ ⑤



**GENERIC ANCHOR CABLE BOX** ⑧ ⑤



**BEARING PLATE** ⑥ ⑤

6

6

SDD 14B44 - 04b

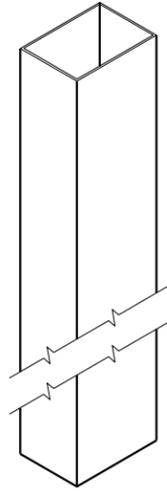
SDD 14B44 - 04b

**MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)**

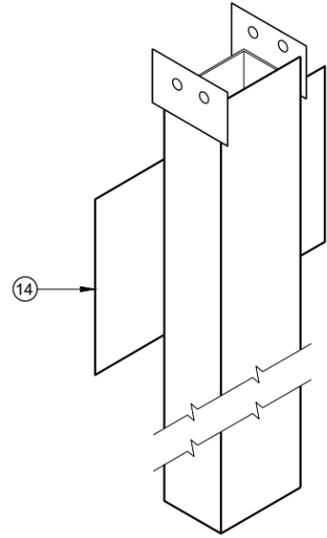
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



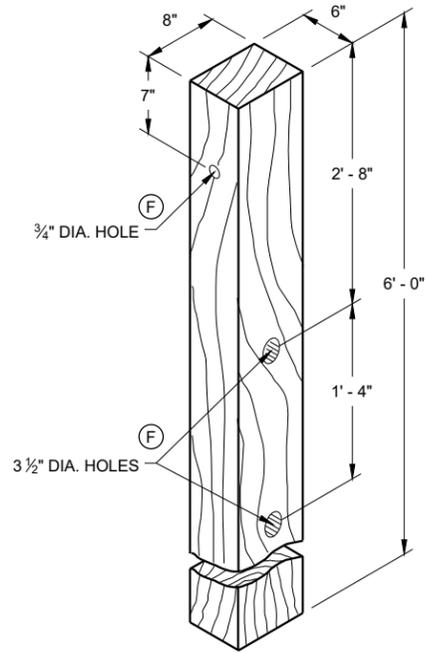
# SDD 14B44-c Midwest Guardrail System (MGS) Energy Absorbing Terminal



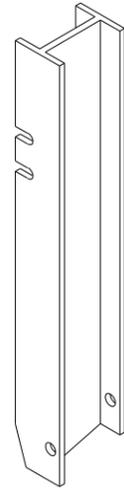
UPPER POST NO. 1 <sup>(1)</sup> (E)



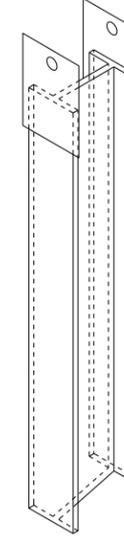
LOWER POST NO. 1 <sup>(2)</sup> (E)



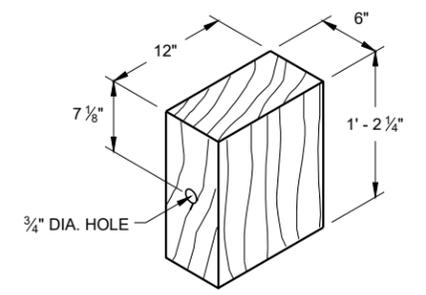
WOOD CRT POST <sup>(3)</sup> (E)  
POSTS NUMBER 3-9



UPPER POST NO. 2 <sup>(15)</sup> (E)

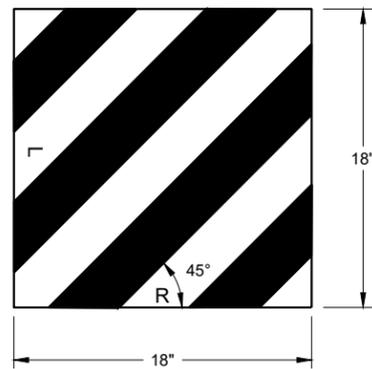


LOWER POST NO. 2 <sup>(16)</sup> (E)

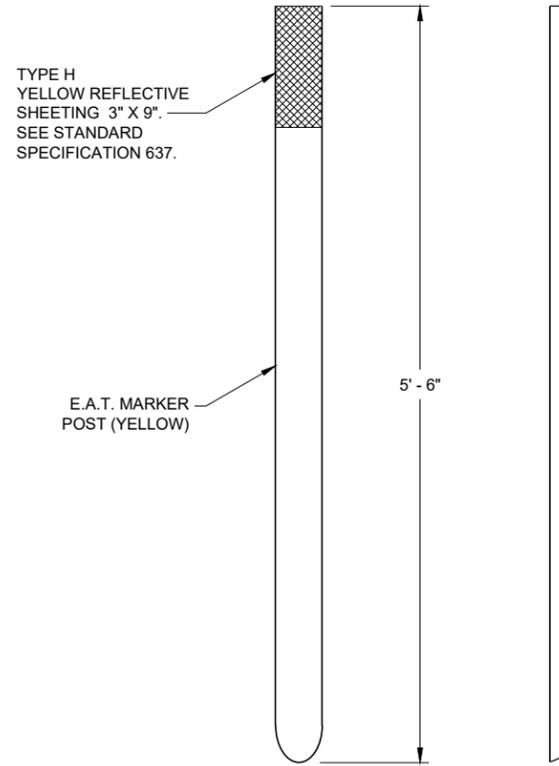


WOOD BLOCKOUT <sup>(4)</sup>  
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

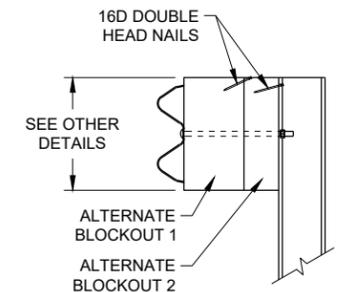
6



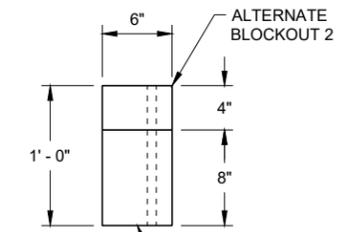
W5 - 59  
REFLECTIVE SHEETING DETAIL <sup>(E)</sup>



E.A.T. MARKER POST <sup>(13)</sup>



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

6

SDD 14B44 - 04c

SDD 14B44 - 04c

<b>MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

*Midwest Guardrail System (MGS) Terminal***References:**[CMM 6-26](#)[FDM 11-45-30](#)

AASHTO Roadside Design Guide

[Standard Spec 614](#)**Bid items associated with this drawing:**

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
614.0010	Barrier System Grading Shaping Finishing.....	EACH
614.0920	Salvaged Rail.....	LF
614.0925	Salvaged Guardrail End Treatments .....	EACH
614.0930 – 0939	Salvaged (component).....	EACH
614.1000	MGS Guardrail Temporary.....	LF
614.1100	MGS Guardrail Temporary Thrie Beam Transition .....	LF
614.1200	MGS Guardrail Temporary Terminal EAT .....	EACH
614.2300	MGS Guardrail 3 .....	LF
614.2310	MGS Guardrail 3 HS .....	LF
614.2320	MGS Guardrail 3 QS .....	LF
614.2330	MGS Guardrail 3 K.....	LF
614.2340	MGS Guardrail 3 L .....	LF
614.2500	MGS Thrie Beam Transition .....	LF
614.2610	MGS Guardrail Terminal EAT .....	EACH
614.2620	MGS Guardrail Terminal Type 2 .....	EACH

**Standardized Special Provisions associated with this drawing:**

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

**Other SDDs associated with this drawing:**

<a href="#">SDD 8D1</a>	Concrete Curb, Concrete Curb & Gutter and Ties
<a href="#">SDD 14B28</a>	Mow Strip Detail
<a href="#">SDD 14B42</a>	Midwest Guardrail System
<a href="#">SDD 14B43</a>	Midwest Guardrail System Long Span (MGS L)
<a href="#">SDD 14B44</a>	Midwest Guardrail System Terminal (MGS)
<a href="#">SDD 14B45</a>	Midwest Guardrail System Transitions (MGS)
<a href="#">SDD 14B47</a>	Midwest Guardrail System Type 2 Terminal (MGS)

**Design Notes:**

Review drainage and grading near MGS EAT early in the scoping or design process. Additional right of way may be needed to accommodate grading, and drainage near MGS EAT.

Downturned ends are no longer considered an acceptable end treatment. Contact BPD to install a downturned end treatment (see [FDM 11-45-30.5.4](#)).

**Contact Person:**

Erik Emerson (608) 266-2842